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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JONATHAN H. FISCHER, ROGER A. FRATTI, and
JOHN T. REHBERG

Appeal 2008-4253
Application 10/719,655
Technology Center 2600

Decided: December 29, 2008

Before KENNETH W. HAIRSTON, ROBERT E. NAPPI, and
CARLA M. KRIVAK, *Administrative Patent Judges*.

KRIVAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from a final rejection of
claims 1-20. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

STATEMENT OF CASE

Appellants' claimed invention is a magnetic storage system that uses micro-electronic mechanical shutters (MEMs). The invention includes a system, method, and write-head for a magnetic storage system (Spec. 3:16-25 and 4:16-18). The system, method, and write head all energize a write coil for at least a plurality of bit intervals and selectively allow a magnetic field to alter a magnetic domain of a magnetic storage medium for each bit interval using a shutter.

Independent claim 1, reproduced below, is representative of the subject matter on appeal.

1. A magnetic storage system, comprising:

at least one write coil to generate a magnetic field of at least a plurality of bit intervals;

a magnetic storage medium; and

at least one shutter to selectively allow said magnetic field to alter a magnetic domain of said magnetic storage medium.

REFERENCES

Crue	US 6,693,768 B1	Feb. 17, 2004 Filed Mar. 15, 2001
Tamura	US 6,812,055 B2	Nov. 2, 2004 Filed Feb. 21, 2002

The Examiner rejected claims 1-20 under 35 U.S.C. § 112, first paragraph.

The Examiner rejected claims 1-20 under 35 U.S.C. § 103(a) based upon the teachings of Crue and Tamura.

Appellants contend claims 1-20 are enabled by the Specification and that Crue and Tamura cannot be combined to obtain Appellants' invention (App. Br. 3, 7; Reply Br. 6, 8).

ISSUES

Did the Examiner err in finding the "shutter" recited in claims 1-20 is not enabled by Appellants' Specification under 25 U.S.C. § 112, first paragraph?

Did the Examiner err in finding the combination of Crue and Tamura under 35 U.S.C. § 103(a) results in a shutter selectively allowing a magnetic field to alter a magnetic domain of a magnetic storage medium?

FINDINGS OF FACT

1. Appellants' invention is a magnetic storage medium that employs a write head and shutters that allow a magnetic field to alter a magnetic domain of the magnetic storage medium for each bit interval (Spec. 2:1-3). The shutter(s) can pivot across a central axis between an open and closed position and is controlled by microelectromechanical (MEMs) systems or other micromachine control elements (Spec. 4:3-8).

2. The shutter(s) 200 control the path of the magnetic field (Fig. 2). The path of the magnetic field selectively alters the magnetic domain of the magnetic storage material 150 (Spec. 3:16-18). This allows the write coil 110 to be continuously energized allowing a continuous magnetic field 120 without the occurrence of voltage spikes (Spec. 3:13-15).

3. Crue teaches a magnetic recording head for use with magnetic storage media (Abstract). Current passes through a coil to create magnetic

flux within a main pole that then generates a strong magnetic field. The magnetic field causes the magnetic domains in the tracks to align with the magnetic field of the main pole. Changing the direction of the current changes the direction of flux and therefore changes the magnetic field within the magnetic storage medium. A binary “0” is recorded by maintaining a constant direction of the magnetic flux through the main pole, and a binary “1” is recorded by changing the direction of magnetic flux through the main pole (col. 3: ll. 21-42).

4. Tamura teaches a MEMs device using MEMS electromagnetic actuators (Abstract). The device can be employed in electric, fluidic, mechanical, and optical applications, and combinations thereof (col. 1, ll. 16-20). In an optical embodiment (Fig. 12), an actuatable element 614 includes an optical element. By selectively applying an operation current to an actuator 612, the actuatable element and the shutter 640 can be selectively positioned within the optical path to attenuate the optical beam. The MEMs device 610 provides precise electronic control of the optical signal level by selectively moving the shutter 640 (col. 17, ll. 8-20).

5. The MEMs device of Tamura can also be incorporated into an electrical switch (col. 18, ll. 36-38; Fig. 14).

PRINCIPLES OF LAW

Enablement

The test regarding enablement is whether the disclosure, as filed, is sufficiently complete to enable one of ordinary skill in the art to make and use the claimed invention without undue experimentation. *See In re Scarbrough*, 500 F.2d 560, 566 (CCPA 1974).

As our reviewing court stated:

Although not explicitly stated in section 112, to be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without “undue experimentation.” . . . Nothing more than objective enablement is required, and therefore it is irrelevant whether this teaching is provided through broad terminology or illustrative examples. [Citations omitted; emphasis ours.]

In re Wright, 999 F.2d 1557, 1561 (Fed. Cir. 1993).

It is well settled that the Examiner has the initial burden of producing reasons that substantiate a rejection based on lack of enablement. *In re Strahilevitz*, 668 F.2d 1229, 1232 (CCPA 1982) and *In re Marzocchi*, 439 F.2d 220, 224 (CCPA 1971). Once this is met, the burden shifts to the Appellants to rebut this conclusion by presenting evidence to prove that the disclosure is enabling. *In re Doyle*, 482 F.2d 1385, 1392 (CCPA 1973).

Obviousness

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). If the Examiner’s burden is met, the burden then shifts to the Appellants to overcome the *prima facie* case with argument and/or evidence. Obviousness is then determined on the basis of the

evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

The Examiner's articulated reasoning in the rejection must possess a rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

ANALYSIS

Enablement

The Examiner rejected claims 1-20 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The Examiner contends the Specification does not describe the claim limitations "a shutter to selectively allow said magnetic field to alter a magnetic domain of said magnetic storage medium." (Ans. 3) The Examiner further contends the Specification does not describe how the medium is attached and how it behaves while it is allowing or inhibiting the magnetic flux of the write coil. The Examiner states the "Specification mentions actions of 'open' and 'close', but these descriptions are insufficient for one of ordinary skill in the art to understand how is this 'shutter' controlled..." (Ans. 3) "The Examiner *considers* that further explanation and description as to the conditions under which the shutters are activated/open/closed is very important to further understand the selection under which the shutters are operated, and to make the specification meet the enablement requirements. Therefore, it is not a matter of design choice (emphasis added)." (Ans. 6). What the Examiner considers is not a factor in making an enablement rejection. The Examiner has not produced reasons that substantiate a rejection based on lack of

enablement. *In re Strahilevitz, supra*. Further, the claims are not directed to the shutter and how it operates; but rather to a magnetic storage medium.

However, considering *arguendo* the Examiner's burden was met, Appellants must show nothing more than objective enablement is required. *In re Wright, supra*. Appellants' assertion that the Specification in Fig. 2, page 3, lines 16-15, page 4, lines 16-18, and page 5, lines 12-22, sets forth how the shutter 200 selectively allows the magnetic field to alter a magnetic domain of the storage medium (App. Br. 3; Reply, 2-6) meets this requirement.

The claims recite a magnetic storage system that includes a shutter. Appellants have shown that shutters for optical use are known in the art, and further, the Specification sufficiently discloses how the shutter operates. Appellants have rebutted the Examiners rejection by presenting evidence to prove that the disclosure is enabling. *In re Doyle, supra*.

Obviousness

The Examiner rejected claims 1-20 under 35 U.S.C. § 103 (a) as obvious over Crue and Tamura. We address this rejection with respect to representative claim 1, as independent claims 10 and 14 contain similar limitations.¹

¹ Appellants argue independent claims 1, 10, and 14 together (App. Br. 6; Reply Br. 7). Except as will be noted in this opinion, Appellants have not presented any substantive arguments directed separately to the patentability of dependent claims 2-9, 11-13, and 15-20. In the absence of a separate argument with respect to those claims, they stand or fall with the representative independent claim (App. Br. 8; Reply Br. 9). *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Examiner contends Crue teaches all the features of claim 1 except for disclosing at least one shutter to selectively allow the magnetic field to alter a magnetic domain of a magnetic storage medium (Ans. 4). The Examiner then cites Tamura as teaching a MEMs device including a shutter to block or allow a signal by placing the shutter into and out of the optical path (Ans. 4). Thus, the Examiner contends it would have been obvious to one ordinarily skilled in the art at the time of the invention to modify Crue "by implementing a shutter as disclosed by Tamura ... to provide a device that selectively generates displacement forces" allowing the MEMs actuator to move in and out of the path (Ans. 4-5, 8).

Appellants assert there is no reason or motivation to combine Crue and Tamura, and even if combinable, they do not teach the limitations of the independent claims (App. Br. 7; Reply Br. 8). Appellants further assert it would not have been obvious at the time of the invention to use an optical shutter in a magnetic storage system. Even if the references could be combined, the combination would not suggest a shutter selectively allowing a magnetic field to alter a magnetic domain of a magnetic storage medium (Reply Br. 8).

Crue teaches changing the direction of current changes the direction of flux and thus, a binary "0" is recorded by maintaining a constant direction of the flux and a binary "1" is recorded by changing the direction of the magnetic flux (FF3; Reply Br. 7). Tamura teaches changing the current path by applying the current to an actuator to selectively move a shutter and thereby control an optical signal (FF4). The direction of the current is not changed. Rather, the current is switched or re-directed; not reversed as in Crue. Thus, there is no teaching or suggestion in Crue to employ an optical

shutter taught by Tamura to control the current. Further, as asserted by Appellants, there is no teaching or suggestion in either reference to provide a shutter to selectively allow a magnetic field to alter the magnetic domain of a magnetic storage medium.

The Examiner has not provided evidence to show one skilled in the art would modify Crue's device to include a shutter to alter the magnetic field. Thus, we reverse the Examiner's rejection of claims 1-20 under 35 U.S.C. § 103(a) over Crue and Tamura.

CONCLUSION

Examiner erred in rejecting claims 1-20 under 35 U.S.C. § 112.

The Examiner also erred in rejecting claims 1-20 under 35 U.S.C. § 103(a) as obvious over Crue and Tamura.

DECISION

The Examiner's decision in rejecting claims 1-20 is reversed.

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REVERSED

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